CLAIMS

1. A process for the manufacturing of a decorative laminate, which laminate comprises an upper decorative and abrasion resistant thermosetting laminate layer and a carrying core, wherein the upper side of the core is provided with the abrasion resistant thermosetting laminate and that the lower side of the core is provided with a balance layer, said balance layer having the purpose of preventing warping of said decorative laminate and at the same time having the purpose of acoustic dampening, said balance layer comprising a layer of a polymer, whereby said balance layer and said thermosetting laminate are joined with said core by means of pressing, that said carrying core further is provided with a dampening foil of an elastomer arranged between the upper side of the core and the abrasion resistant thermosetting laminate which elastomer and thermosetting laminate are joined with each other and with the core by means of pressing, whereupon the achieved laminate is cut into panels and provided with edges intended for joining.

2. A process according to claim 1, wherein the thermosetting laminate is constituted by one or more decor papers impregnated with melamine-formaldehyde resin and one or more overlay sheets impregnated with melamine formaldehyde resin arranged on top of the decor papers and possibly one or more conventional resin impregnated underlay papers, arranged under the decor paper or decor papers, which underlay papers preferably contains phenol-formaldehyde resin, which papers are laminated together under increased pressure and increased temperature.

3. A process according to claim 1, wherein the carrying core is constituted by a particle board.

4. A process according to claim 1, wherein the carrying core is constituted by a fibre board.

5. A process according to claim 1, wherein the carrying core is constituted by an oriented strand board.

6. A process according to claim 1, wherein the carrying core is constituted by a board based on polymers such as polyurethane.

7. A process according to claim 1, wherein the carrying core is constituted by a fibre cement board.

8. A process according to claim 6, wherein the board further comprise fibre.

9. A process according to claim 6, wherein the board further comprise particles.

10. A process according to claim 2, wherein at least one of the sheets impregnated with thermosetting resin, preferably the outermost, is provided with hard particles of for example silicon oxide, aluminium oxide and/or silicon carbide with an average size of 1 -100 μm, preferably around 5 - 60 μm.

11. A process according to claim 2 or 10, wherein the thermosetting laminate has a thickness in the range 0.3 mm - 1.2 mm, preferably 0.3 mm - 0.9 mm.

12. A process according to claim 2, 10, or 11, wherein the thermosetting laminate has a density in the range 1250 - 1500 kg / m^3.

13. A process according to claim 1, wherein the balance layer is constituted of a thermoplastic elastomer.

14. A process according to claim 13, wherein the balance layer has elasticity compression coefficient in the range 0.5 - 2.7 Mpa, preferably 0.8 - 2.0 Mpa.

15. A process according to claim 13 or 14, wherein the balance layer has a thickness in the range 0.1 - 5 mm, preferably 0.2 - 1 mm.

16. A process according to any of the claims 13 - 15, wherein the balance layer has a density in the range 50 - 400 kg/m^3, preferably 80 - 330 kg/m^3.

17. A process according to any of the claims 13 - 16, wherein the balance layer is joined with the carrying core by means of glue and pressure.

18. A process according to claim 1, wherein the balance sheet is constituted by a non-woven fibre arranged on a polyolefin foil.

19. A process according to claim 18, wherein the non-woven fibre is constituted by polypropylene.

20. A process according to claim 18, wherein the non-woven fibre is constituted by polyester.

21. A process according to any of the claims 18 - 20, wherein the polyolefin foil is constituted of polyethylene.

22. A process according to any of the claims 18 - 21, wherein the balance layer has an unloaded average thickness in the range 0.3 - 5 mm.

23. A process according to any of the claims 18 - 22, wherein the balance layer has an unloaded density in the range 150 - 800 kg/m^3.

24. A process according to any of the claims 13 - 23, wherein the balance sheet further comprises a conductive material.

25. A process according to claim 24, wherein the conductive material is constituted of carbon black.

26. A process according to claim 24, wherein the conductive material is constituted of carbon fibre.

27. A process according to claim 24, wherein the conductive material is constituted of a vacuum metallized layer.

28. A process according to claim 27, wherein the metallized layer is constituted of aluminium.

29. A process according to any of the claims 24 - 28, wherein a conductivity is better than 500kΩcm.

30. A process according to any of the claims 1 - 29, wherein the thermosetting laminate is joined with the carrying core by means of glue and pressure.

31. A process according to any of the claims 1 - 30, wherein the balance layer and/or the thermosetting laminate is joined with the carrying core by means of melt-glue, heat and pressure.

32. A process according to any of the claims 1 - 23, wherein the balance layer and/or the thermosetting laminate is joined with the carrying core by means of glue, heat and pressure.

33. A process according to claims 32, wherein the glue comprises a conductive material.

34. A process according to claim 33, wherein the conductive material is constituted of carbon black.

35. A process according to claim 33, wherein the conductive material is constituted of carbon fibre.

36. A process according to any of the claims 33 - 35, wherein a conductivity is better than 500kΩcm.

37. A process according to claim 1 wherein the thermosetting laminate has a thickness in the range 0.3 mm - 1.2 mm, preferably 0.3 mm - 0.9 mm.

38. A process according to claim 37 wherein the thermosetting laminate has a density in the range 1250 - 1500 kg / m^3.

39. A process according to claim 1 wherein the dampening foil is constituted of a thermoplastic elastomer.

40. A process according to claim 39 wherein the dampening foil has elasticity compression coefficient in the range 0.5 - 2.7 Mpa, preferably 0.8 - 2.0 Mpa.

41. A process according to claim 39 or 40 wherein the dampening foil has a thickness in the range 0.1 - 0.7 mm, preferably 0.1 - 0.5 mm.

42. A process according to claim 39 or 40 wherein the dampening foil has a density in the range 150 - 400 kg/m^3, preferably 180 - 330 kg/m^3.

43. A process according to claim 39 wherein the dampening foil and the thermosetting laminate is joined with the carrying core by means of glue and pressure.

44. A process according to claim 41 wherein the dampening foil and the thermosetting laminate is joined with the carrying core by means of melt-glue, heat and pressure.

45. A process according to claim 41 wherein the dampening foil and the thermosetting laminate is joined with the carrying core by means of melt-glue, heat and pressure.